(1371)

LINCOLN
APPLIED GEOLOGY, INC.
ENVIRONMENTAL CONSULTANTS

June 6, 1994

Mr. Richard Spiese
Sites Management Section
Vermont Department of
Environmental Conservation
103 South Main Street
Waterbury, Vermont 05676

RE: Betourney's Market Status Report (VDEC Site #93-1371)

Dear Mr. Spiese:

Lincoln Applied Geology, Inc. (LAG) has continued with implementation of the Betourney's Market Corrective Action Plan (CAP) that you approved in November, 1993. The two point vapor extraction system (VES) was successfully installed during December 1993. The system was brought on-line December 22, 1993 and extracted an equivalent of 133 gallons of gasoline by January 31 when the system shutdown due to extensive freeze up of condensate. Efforts to thaw the system proved unsuccessful. Following the spring thaw, ground water levels remained sufficiently high to preclude vapor extraction until May 18 when the system was finally brought back on-line. The VES has remained operational since.

The site monitoring that has been performed as a component of the CAP continues to document a residual narrow plume of contamination comparable to our previous reports. Contaminant levels, however, have shown significantly decreased concentrations. No water quality impacts to the Fire District well or it's distribution system have been detected in the latest sampling round. During the recent spring high water season, when potential residential vapor impacts were anticipated, no significant problems were encountered. Despite the 'natural' cleanup process occurring in the downgradient plume, continued operation of the VES within the source area remains warranted.

Enclosed for your information and use in reviewing this status report are the following:

Table 1, Ground Water Elevations and Product Thickness;
Table 2, Photoionization Monitoring Results;
Table 3, Water Quality Summary;
Figure 1, General Location Map;
Figure 2, Regional Site Map;

Figure 3,	Ground Water Contour Map for January 5, 1994;
Figure 4,	Ground Water Contour Map for April 25, 1994;
Figure 5,	Water Quality Summary Map for January 5, 1994;
Figure 6,	Water Quality Summary Map for April 25, 1994;
Charts 1&2,	Ground Water Level Trends;
Chart 3,	MW-10 and MW-11 PID Trends;
Chart 4,	VW-1 and VW-2 PID Trends;
Chart 5,	MW-5 and MW-8 PID and Water Level Trends;
Chart 6,	Vapor Extraction System Trends;
Chart 7,	BTEX Water Quality Trends;
Chart 8,	MTBE Water Quality Trends;
Appendix A,	January 1994 Analytical Results; and
Appendix B,	April 1994 Analytical Results.

The general location of the Betourney's Market site in East Middlebury is depicted on **Figure 1**. The regional map presented as **Figure 2** shows the location of Betourney's Market relative to the Fire District Well #2 and Dayton's Store, the site of an earlier gasoline release. The complete array of ground water monitoring wells and the Middlebury River, the ultimate receptor of the soluble phase contamination, are also depicted on **Figure 2**.

Our previous investigative reports prepared in 1993 identified a relatively narrow plume of soluble phase contamination emanating from Betourney's Market. The plume was moving with ground water flow in a southwesterly direction towards the Middlebury River. Several residences in line with the plume were impacted with gasoline vapors during the 1993 seasonal wet spring conditions when basements had sump pumps running. The most impacted residence was the Martin Farms/Larkin Residence which is now owned by the Kray family.

During 1993 site monitoring, limited free phase floating product was only intermittently detected in MW-5 at thicknesses no greater than 0.02 feet. As seen in **Table 1**, no free phase product has been detected so far during 1994. Based on our understanding of the soils and hydrogeology of the site, including the current water quality data, we do not anticipate a reappearance of free product.

The ground water level data for 1994 is also included in **Table 1** which documents the seasonal spring increase in water levels. The annual seasonal water level fluctuations are more clearly seen in **Charts 1 and 2**, water level trends for several wells located across the site. Utilizing the water level data for January 5 and April 25, 1994 ground water contour maps have been

prepared as **Figures 3 and 4** respectively. In both cases ground water flow direction has remained in a southwesterly direction at a consistent and slight gradient comparable to the maps previously submitted.

During the biweekly site monitoring vapor levels have continued to be assayed by a 10.2 eV photoionization device (PID). The 1994 results are summarized in **Table 2.** With the exceptions of MW-5, MW-8, MW-11, and the VW 1 and 2 vapor extraction wells, vapor levels have ranged from background (BG) to 2 parts per million (ppm). This includes the residential monitoring points and indicates that no significant residential vapor impacts occurred during the spring of 1994 with one exception.

In early April we responded to a request by the Kray's to turn on the air purifier system that was originally installed during the spring 1993 preliminary investigations into the source of the vapors. The Kray's had purchased the former Martin Farms/Larkin residence depicted on our site maps. In evaluating the April 1994 source of petroleum odors in the basement, the LAG field technician first noticed the odor was fuel oil and then traced the source to a slight line leak near the furnace. This has been fixed and no other residential impacts have been observed this spring.

The monitoring points that have demonstrated elevated PID assays are located in or near the source area. Please note that the oxidizer influent and effluent values referenced in **Table 2** are related to the VES Falco operations. Overall PID trends are somewhat difficult to discern although the elevated levels originally measured in MW-11 have declined significantly (**Chart 3**). There does not appear to be any coherent trend in the vapor extraction wells (**Chart 4**) and the 1994 decrease in vapor levels in MW's 5 and 8 may be related to the spring seasonal water level increase (**Chart 5**). The continued presence of vapors within these source area monitoring points does, however, continue to show a need for operation of the VES.

As previously indicated, the VES came on-line on December 22, 1993. The system operated as expected until condensate freezing within the VES lines caused a shutdown sometime during the first week of February. During the first five weeks of operation however, we estimate from our monitoring data that an equivalent of 133 gallons of product was recovered in vapor form prior to incineration within the Falco treatment system.

Attempts to thaw the lines during February were unsuccessful. Based on the anticipated depth of frost, the lack of measurable vapor impacts in nearby potential receptors, and the short remaining time of winter operation before

spring high seasonal water limitations, LAG chose not to excavate the frozen VES lines. It was not until May 18, 1994 that the seasonal high water levels receded to a level that the VES could be effectively operated again. We estimate that an additional 17 gallons of gasoline has been removed in vapor form from May 18 through June 1. A trend graph of product recovery and extracted vapor concentrations has been prepared as **Chart 6**.

When operational the VES has worked very well and we expect successful operations to continue through the summer and fall. As a prototype, the Falco unit has required some electrical maintenance and servicing to maintain compliance with electrical as well as fire and safety codes.

We are optimistic that sufficient vapors will have been extracted by next winter so that winter VES operation will not be necessary. We will make that recommendation by September so that appropriate repairs can be made to minimize the freeze up potential. That recommendation will be based on residual vapor levels, rate of vapor recovery, and trends in ground water quality.

Two quarterly rounds of ground water quality monitoring have been performed since our last status report. Copies of the analytical results of the January 5, 1994 sampling of the monitoring well array are included in **Appendix A**. On April 25, 1994 this quarterly sampling was repeated along with the Fire District well, several taps from the distribution system, and several basement sumps from residences within the delineated soluble phase contaminant plume. Copies of the April analytical results are included in **Appendix B**.

The water quality data collected over the past year has been summarized in **Table 3**. Neither the Fire District well or the distribution system to residential water taps show any evidence of contaminant impact. The Kray sump did show quantifiable levels of BTEX and MTBE constituents (130 ppb) on April 13 but a repeat sample obtained on April 29 showed only 7 ppb MTBE. The Blair sump assayed 33 ppb BTEX although the Martell and Duschesne sumps showed no detectable levels of contaminants.

The areal distributions of ground water contaminants for January 5, 1994 and April 25, 1994 are depicted on **Figures 5 and 6** respectively. The overall level of ground water contamination has decreased significantly and the plume originally delineated has not expanded and appears to be shrinking. BTEX

and MTBE trend graphs have been prepared as **Charts 7 and 8** respectively for the 4 wells which have historically shown the greatest water quality impacts.

Based on these cumulative results we recommend no further remedial actions or investigations other than continued implementation of the CAP. That effort currently involves weekly site visits to monitor/maintain the VES and biweekly monitoring of liquid levels and PID assays. Quarterly ground water quality monitoring and semiannual water supply quality monitoring have been tentatively scheduled for July and October 1994.

Now that we have passed the spring high conditions when the downgradient residences were at potential risk, we do recommend the biweekly monitoring be phased back to a monthly basis.

Please feel free to contact me or Steve LaRosa, LAG site manger, with any questions or comments you may have. In the interim we will implement our recommendations.

Sincerely,

John F. Amadon, CPSS

JFA/smd
Enclosures
cc: Kevin Betourney
E. Middlebury Fire District

Lincoln Applied Geology, Inc.
Environmental Consultants
RD # 1 Box 710 • Bristol, Vermont 05443 • (802) 453-4384 • FAX (802) 453-5399

Table 1

Project: Betourney's Market
Location: East Middlbury, Vermont

Site # 93-1371
Sheet 1 of 2

Ground Water Elevation/Product Level (feet)

Data Point	TOC [2]	1-5-94	1-17-94	1-31-94	2-8-94	2-18-94	2-28-94	3-17-94	3-31-94
MW-1	425.65	420.52	420.51	420.53		420.11	420.21	420.67	422.30
MW-2	416.24	411.24	411.23	411.26		411.13	411.17	411.71	415.88
MW-3	407.70	401.98	402.00	402.03		401.15	401.21	401.95	402.59
MW-4	408.87	403.37	403.38	403.42		402.59	402.67	403.45	403.89
MW-5	417.68	411.54	411.54	411.58		411.18	411.22	410.98	413.13
MW-6	416.88	412.18	412.19	412.23		412.06	412.71	412.64	413.93
MW-7	416.61	412.12	412.12	412.15		412.01	412.05	412.30	413.91
MW-8	416.88	411.62	411.61	411.64		411.51	411.55	411.72	413.21
MW-9	416.06	411.25	411.24	411.27		411.06	411.09	411.56	412.76
MW-10	415.21	409.75	409.74	409.77		409.63	409.66	410.29	411.31
MW-11	414.24	409.64	409.64	409.67		409.53	409.57	410.14	411.11
MW-12	413.82	408.41	408.40	409.09		408.22	408.25	408.82	409.78
MW-13	412.69	407.93	407.93	407.95		407.81	407.84	408.42	409.30
MW-14	411.40	406.37	406.37	406.40		406.24	406.28	406.75	408.03
MW-15	409.64	406.19	406.20	406.23		406.04	406.07	406.42	406.31
MW-16	413.67	410.69	410.70	410.38		409.57	410.57	411.17	412.21
MW-17	408.35	402.15	402.14	402.17		402.03	402.05	402.60	403.53
MW-18	407.79	404.09	404.07	404.10		403.95	403.98	404.29	405.59
MW-19	408.60	402.39	402.40	402.42		402.28	402.30	402.71	403.59
MW-20	406.41	404.41	404.40	404.42		404.31	404.37	404.76	405.66
MW-21	413.44	405.56	405.55	405.58		405.52	405.54	405.88	406.79
VW-1	416.77	411.66		411.66	411.47	411.57	411.59		413.32
VW-2	416.68	411.68		411.67	410.98				413.38

Notes:
2 - Reference elevation is elevation of top of PVC well casing
Light Gray - Dry
Dark Gray - Inaccessible

Table 1

Project: Betourney's Market
Location: East Middlbury, Vermont

Site # 93-1371
Sheet 2 of 2

Ground Water Elevation/Product Level (feet)

Data Point	TOC [2]	4-13-94	4-25-94	5-2-94	5-9-94	5-18-94	5-24-94
MW-1	425.65	422.37	421.23		420.63		420.25
MW-2	416.24	412.70	412.03		411.40		411.01
MW-3	407.70	402.71	402.11		401.90		401.29
MW-4	408.87	404.10	403.52		403.37		402.77
MW-5	417.68	413.20	412.56		412.03		412.48
MW-6	416.88	414.04	413.32		412.72		412.28
MW-7	416.61	414.00	413.25		412.69		412.16
MW-8	416.88	413.33	412.68		412.31		412.20
MW-9	416.06	412.87	412.26		411.66		412.05
MW-10	415.21	411.42	410.78		410.31		409.86
MW-11	414.24	411.17	410.49		410.09		409.68
MW-12	413.82	409.85	409.30		408.70		408.42
MW-13	412.69	409.43	408.79		408.29		407.74
MW-14	411.40	408.15	407.15		406.65		406.19
MW-15	409.64	406.41	406.85		406.54		406.04
MW-16	413.67	412.30	411.61		411.02		410.61
MW-17	408.35	403.61	402.95		402.45		402.03
MW-18	407.79	405.67	405.03		404.44		403.99
MW-19	408.60	403.69	403.14		402.79		402.33
MW-20	406.41	405.73	405.11		404.66		404.30
MW-21	413.44	406.86	406.34		405.92		405.54
VW-1	416.77	413.04	412.72	412.62	412.37	412.44	412.26
VW-2	416.68	413.47	412.57	412.89	412.50	412.13	412.19

Notes:
2 - Reference elevation is elevation of top of PVC well casing
Light Gray - Dry
Dark Gray - Inaccessible

Table 2
Site # 93-1371
Sheet 1 of 2

Project: Betourney's Market
Location: East Middlbury, Vermont

Photoionization Results (PID - ppm)

Data Point	1-5-94	1-17-94	1-31-94	2-8-94	2-18-94	2-28-94	3-17-94	3-29-94
MW-1	BG	BG	BG		BG	BG	BG	
MW-2	BG	BG	BG		BG	BG	BG	
MW-3	BG	BG	BG		BG	BG	BG	
MW-4	BG	BG	BG		BG	BG	BG	
MW-5	SL	100	80		SL	120	100	
MW-6	BG	BG	BG		BG	BG	BG	
MW-7	BG	BG	BG		BG	BG	BG	
MW-8	SL	SL	SL		SL	SL	SL	
MW-9	BG	BG	BG		BG	BG	BG	
MW-10	0.2	1.2	1.2		0.2	0.2	2.0	
MW-11	9.6	9.4	9.0		10.6	9.8	4.2	
MW-12	BG	BG	BG		BG	BG	0.2	
MW-13	BG	BG	BG		BG	BG	BG	
MW-14	BG	BG	BG		BG	BG	BG	
MW-15	BG	BG	BG		BG	BG	BG	
MW-16	BG	BG	BG		BG	BG	BG	
MW-17	BG	BG	BG		BG	BG	BG	
MW-18	BG	BG	BG		BG	BG	BG	
MW-19	BG	BG	BG		BG	BG	BG	
MW-20	BG	BG	BG		BG	BG	BG	
MW-21	BG	BG	BG		BG	BG	BG	
VW-1	SL	SL	SL	2.6	21	22		
VW-2	100	SL	110	150	10.4	10.8		
Oxidizer Influent	140	220	300		BG			
Oxidizer Effluent	0.2	0.2	BG		BG			
Shed	BG	BG	BG			BG	BG	
Martell Basement								
Martell Living Area								
Blair Basement						BG	BG	
Blair Living Area						BG	BG	
Kray Basement			BG			BG	BG	BG
Kray Living Area			BG			BG	BG	
Kray Air Purifier Effluent								BG

Notes:
BG - Background
SL - Saturated Lamp
Dark Gray - Inaccessible

Table 2
Project: Betourney's Market
Site # 93-1371
Location: East Middlbury, Vermont
Sheet 2 of 2

Photoionization Results (PID - ppm)

Data Point	3-31-94	4-4-94	4-13-94	4-25-94	5-2-94	5-9-94	5-18-94	5-24-94
MW-1	BG		BG	BG		BG		BG
MW-2	BG		BG	BG		BG		BG
MW-3	BG		BG	BG		BG		BG
MW-4	BG		BG	BG		BG		BG
MW-5	2.8		1.8	4.8		BG		10.8
MW-6	BG		BG	BG		BG		BG
MW-7	BG		BG	BG		BG		BG
MW-8	20.0		26	94		3.2		SL
MW-9	BG		BG	BG		BG		BG
MW-10	BG		BG	0.4		0.6		BG
MW-11	0.2		BG	BG		BG		2.0
MW-12	BG		BG	BG		BG		BG
MW-13	BG		BG	BG		BG		BG
MW-14	BG		BG	BG		BG		BG
MW-15	BG		BG	0.2		BG		BG
MW-16	BG		BG	BG		BG		BG
MW-17	BG		BG	BG		BG		BG
MW-18	BG		BG	BG		BG		BG
MW-19	BG		BG	BG		BG		BG
MW-20	0.2		BG	BG		BG		BG
MW-21	BG		BG	BG		BG		BG
VW-1	58		50	16.0	22	2.8		SL
VW-2	SL		SL	28	15.2	2.0		100
Oxidizer Influent						Off	180	200
Oxidizer Effluent						Off	0	1.0
Shed			BG	BG	BG	BG	BG	BG
Martell Basement		0.2	BG					
Martell Living Area		BG						
Blair Basement		BG	BG					
Blair Living Area		BG						
Kray Basement		BG	BG	BG		BG		BG
Kray Living Area			BG	BG				BG
Kray Air Purifier Effluent		0.2	0.4			BG		

Notes:
BG - Background
SL - Saturated Lamp
Dark Gray - Inaccessible

Table 3

Project: Betourney's Market
Location: East Middlbury, Vermont

Site # 93-1371
Sheet 1 of 1

Ground Water Quality Results (ppb)

Data Point	7-1-93	7-22-93	9-6-93	10-14-93	1-5-94	4-13-94	4-25-94
MW-1	<10 <4		<10 <4	<10 <4.8	<1 <6		<1 <6
MW-2	<10 <4		<10 <4	<10 <4	<1 <6		<1 <6
MW-3	<10 <4		<10 <4	<10 <4	<1 <6		<1 <6
MW-4	<10 <4		<10 <4	<10 <4	<1 <6		<1 <6
MW-5	388 2492.6		<100 924.3	<500 1749	68 7532		<1 2659
MW-6	<10 <4		<10 <4	<10 <4	<1 <6		2 <6
MW-7	<10 <4		<10 47.4	<10 <4	<1 <6		<1 <6
MW-8	1940 13007		802 1861	2570 6999	20 1022		3 <6
MW-9	<10 <4		<10 <4	<10 <4	<1 <6		1 <6
MW-10	388 4810		<100 4706	<500 3959	63 7730		<50 1703
MW-11	<10 18.8		18.9 38.3	<10 <4	<1 <6		<1 <6
MW-12	<10 <4		<10 <4	<10 <4	<1 <6		<1 <6
MW-13	<10 36.4		65.4 125	<50 59	190 627		<1 <9
MW-14	<10 <4		<10 <4	<10 <4	<1 <6		<1 <6
MW-15	388 3216		267 1495	<500 1640	156 548		12 538
MW-16			<10 <4	<10 <4	<1 <6		<1 <6
MW-17			245 37.6	280 190	96 18		<1 <6
MW-18			134 20.1	50.8 <4	20 <6		<1 <6
MW-19			<10 <4	27.6 <4	5 <6		<1 <6
MW-20			<109 242.5	<500 628.8	142 435		9 97
MW-21			<10 <4	<10 <4	<1 <6		<1 <6
Kray Tap	<2.5 <2.5	<10 <4					<1 <6
Kray Sump						9 121	7 <6
Dayton Tap	<2.5 <2.5	<10 <4					<1 <6
Water District Well #2	<2.5 <2.5	<10 <4					<1 <6
Piezometer A	<2.5 <2.5						<1 <6
Blair Tap		<10 <4					
Blair Sump							<1 33
Peabody Tap		<10 <4					<1 <6
Martell Tap		<10 <4					
Martell Sump							<1 <6
Duchesne Tap		<10 <4					<1 <6
Duchesne Sump							<1 <6
Trip Blank			<10 <4				<1 <6

Notes:
MTBE in upper right corner of cell

BTEX in lower left corner of cell
< - Contaminant not detected at specified detection limit

Betourney's Market
MW-5, 8, 10 and 11 Water Level Trends

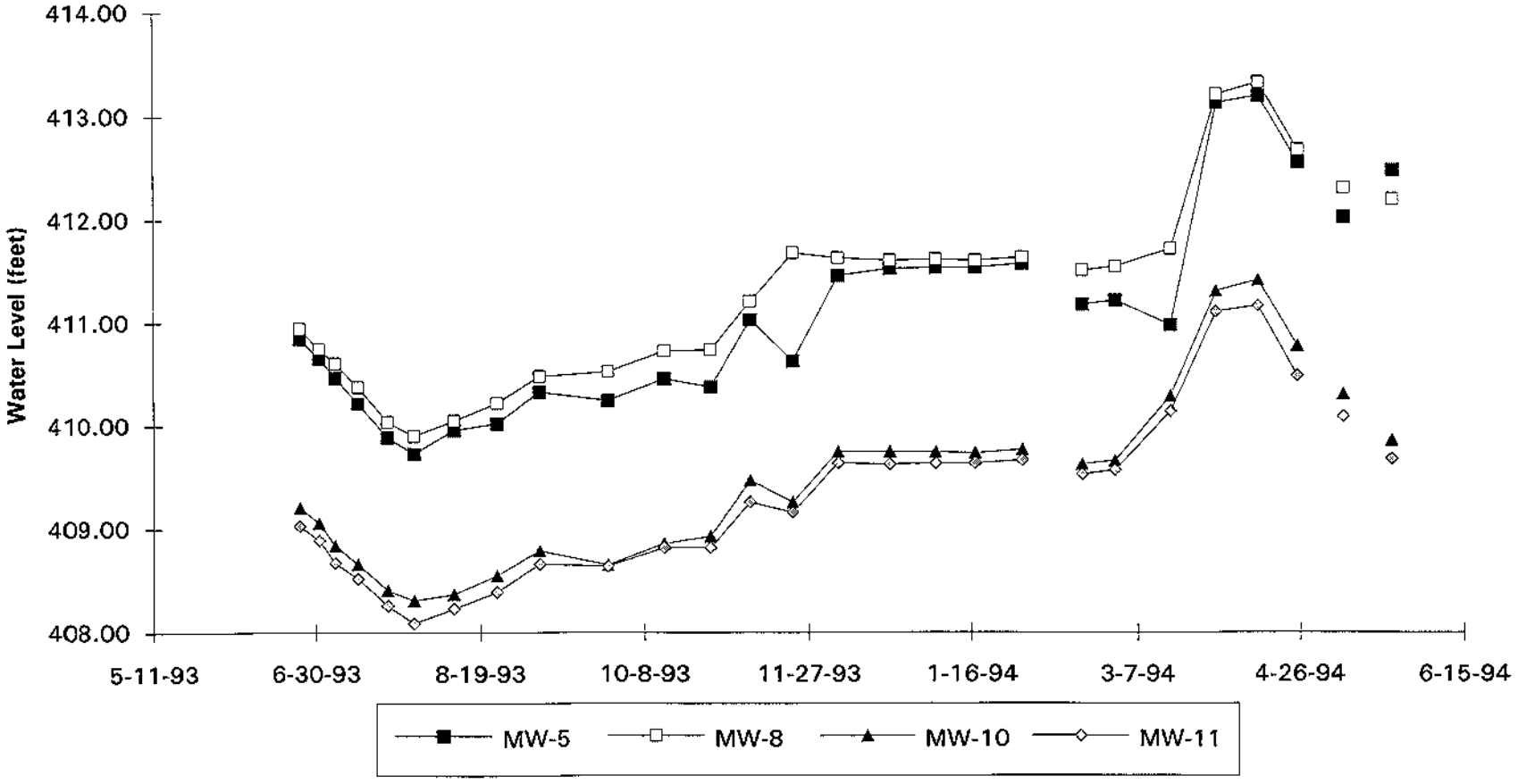


Chart 1

Betourney's Market
MW-12, 13, 17 and 19 Water Level Trends

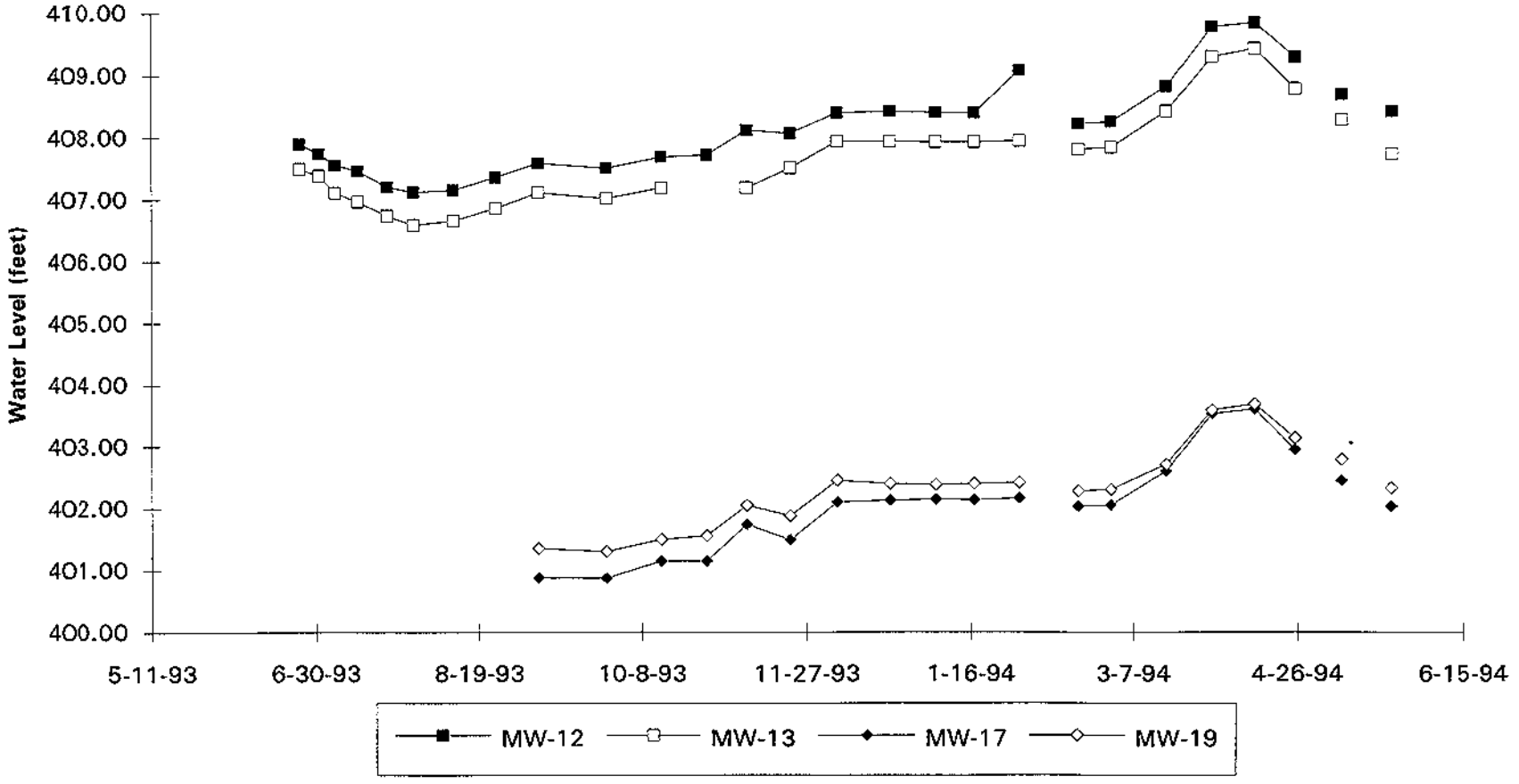


Chart 2

Betourney's Market
PID and Water Level Trends for MW-5 & 8

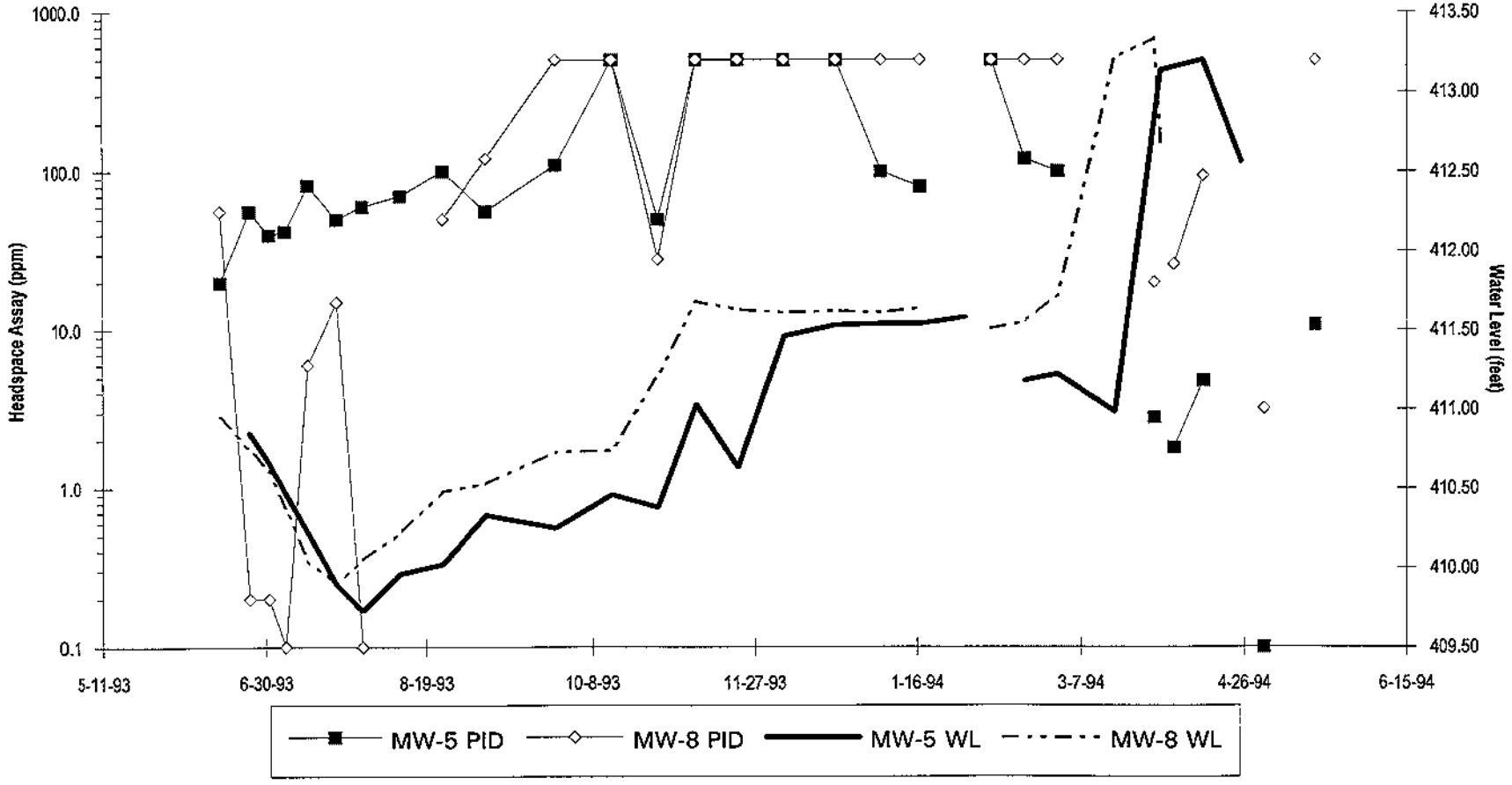


Chart 5

Betourney's Market
MW-10 and MW-11 PID Trends

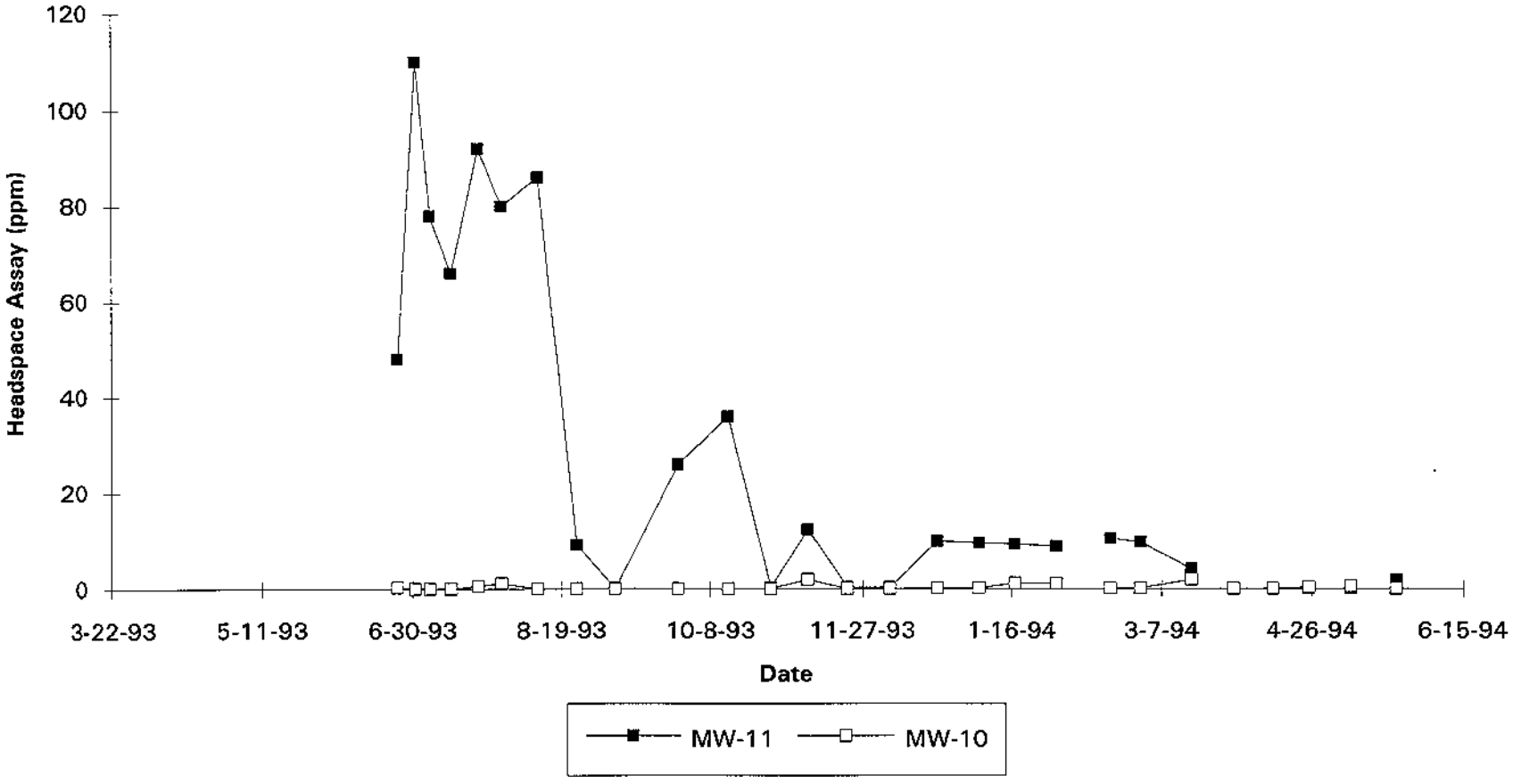


Chart 3

Betourney's Market
VW-1 and VW-2 PID Trends

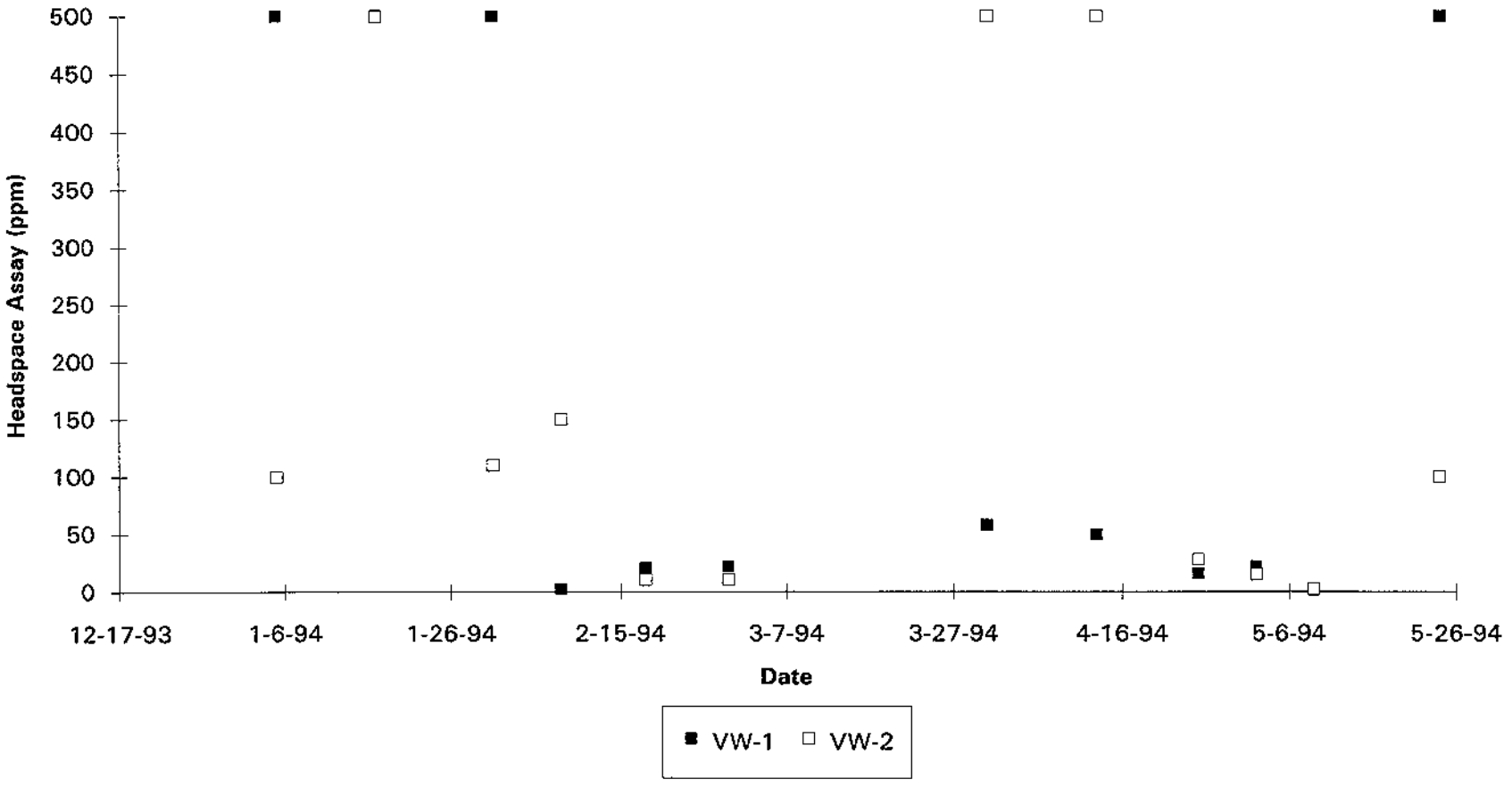


Chart 4

Betourney's Market, E. Middlebury, VT
Vapor Extraction System Trends

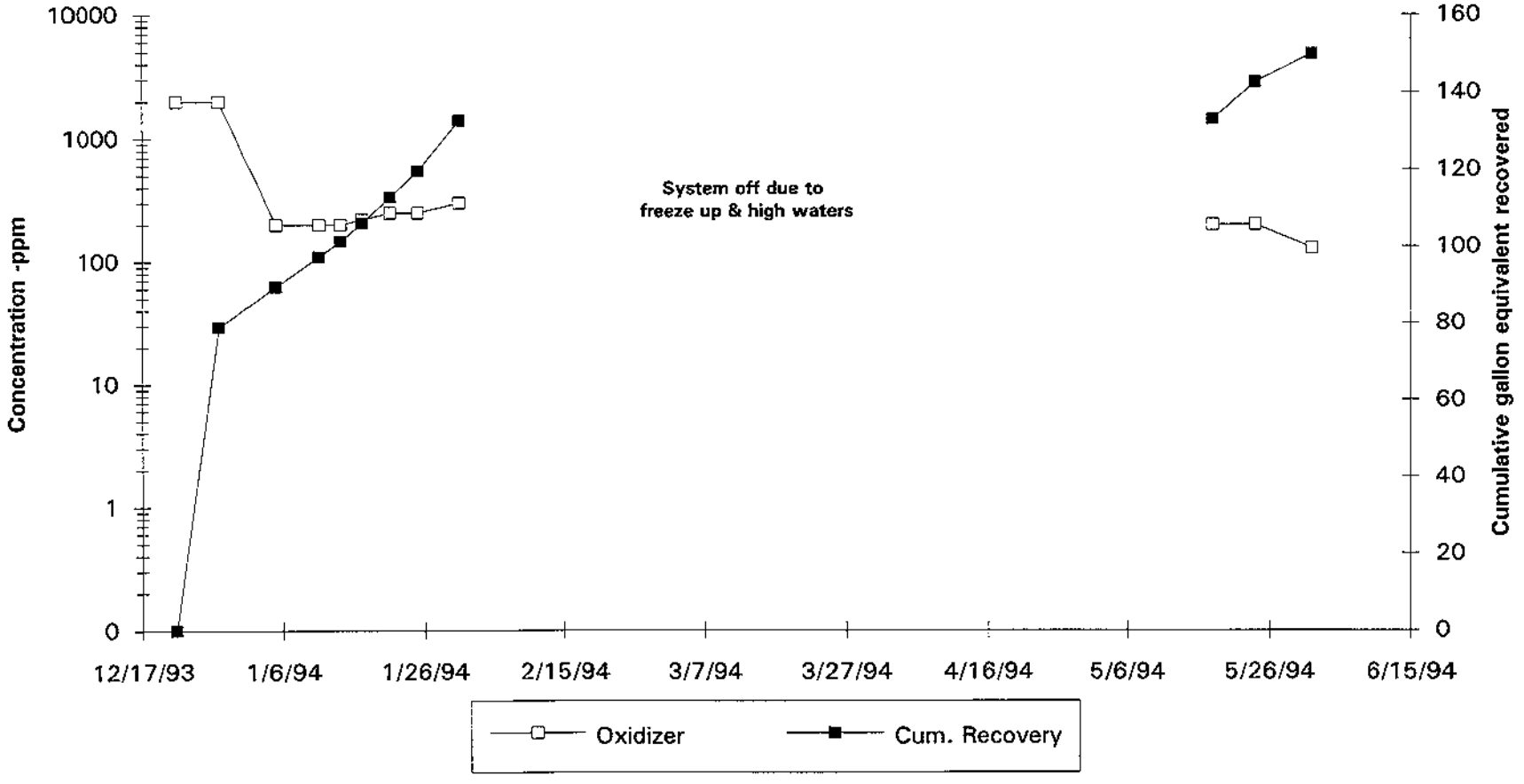


Chart 6

Betourney's Market
East Middlebury, Vermont
MW-5, 8, 10 & 15 Water Quality (BTEX)

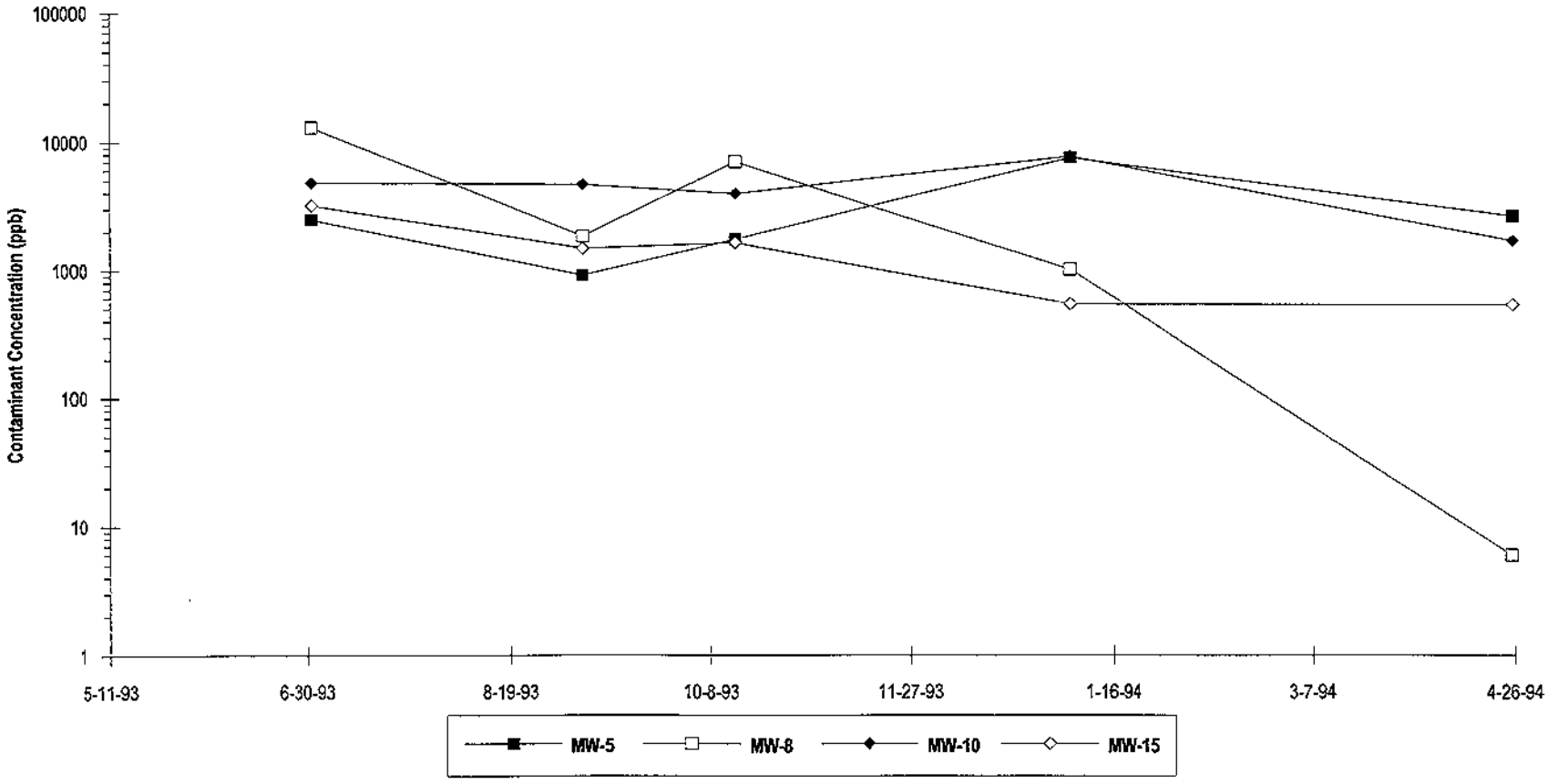


Chart 7

Betourney's Market
East Middlebury, Vermont
MW-5, 8, 10 & 15 Water Quality (MTBE)

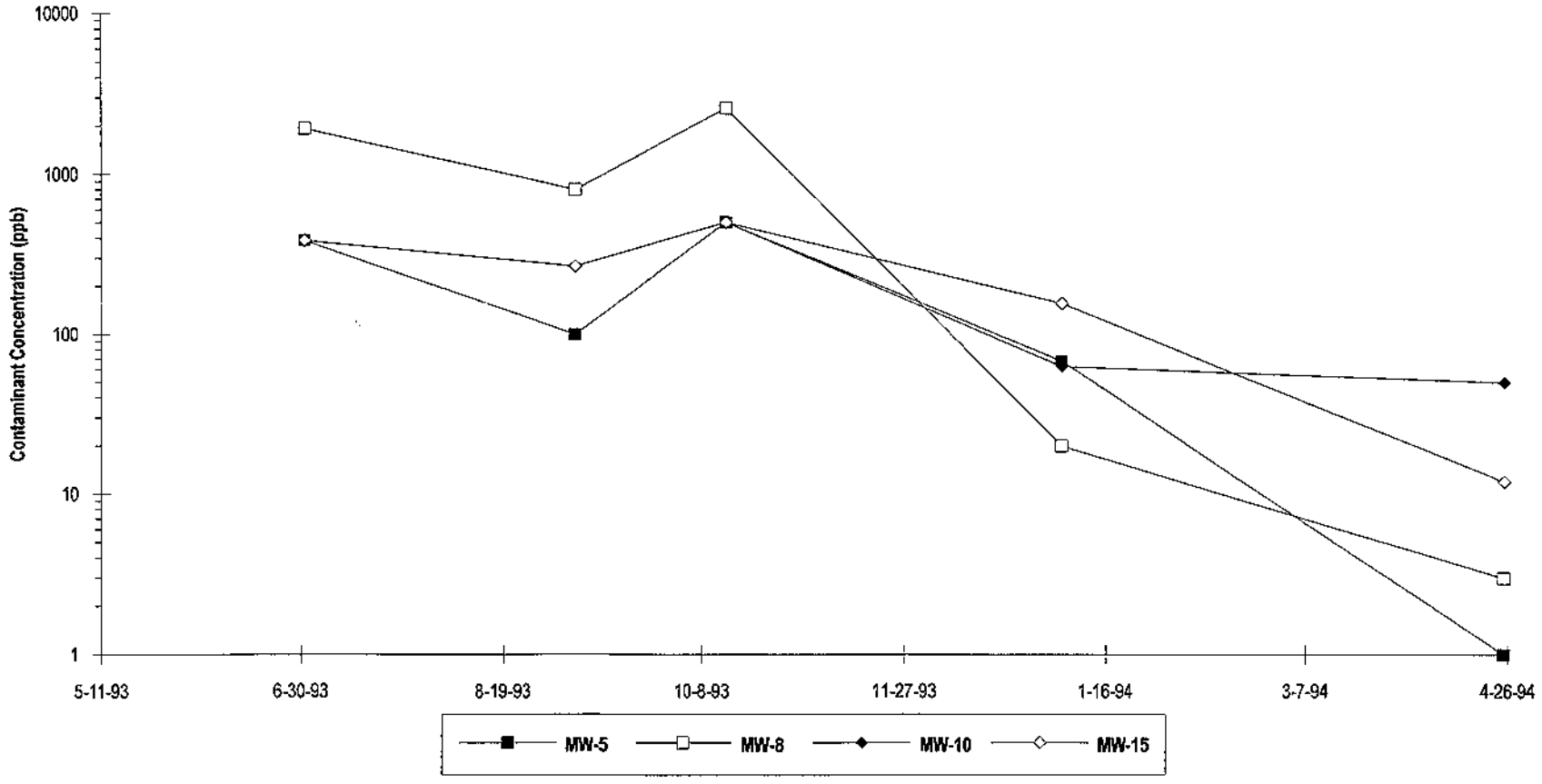
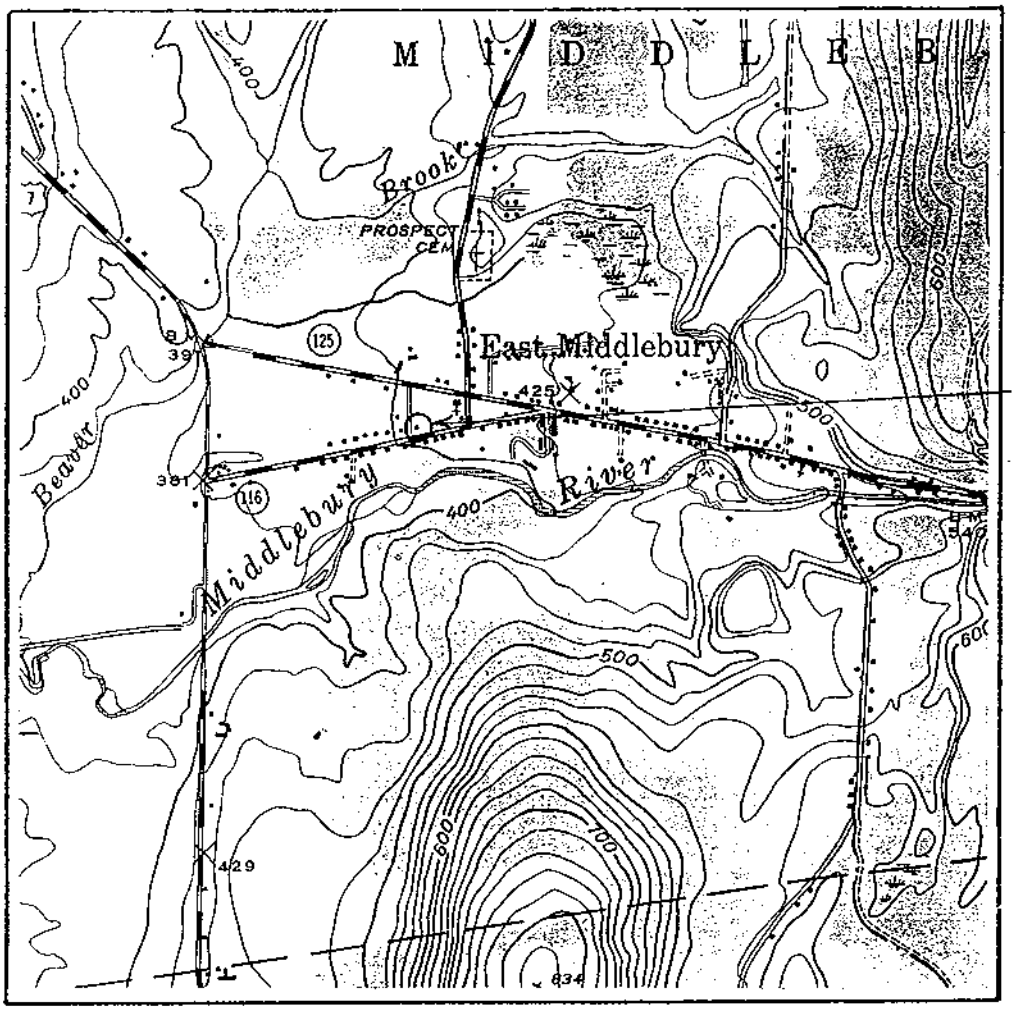


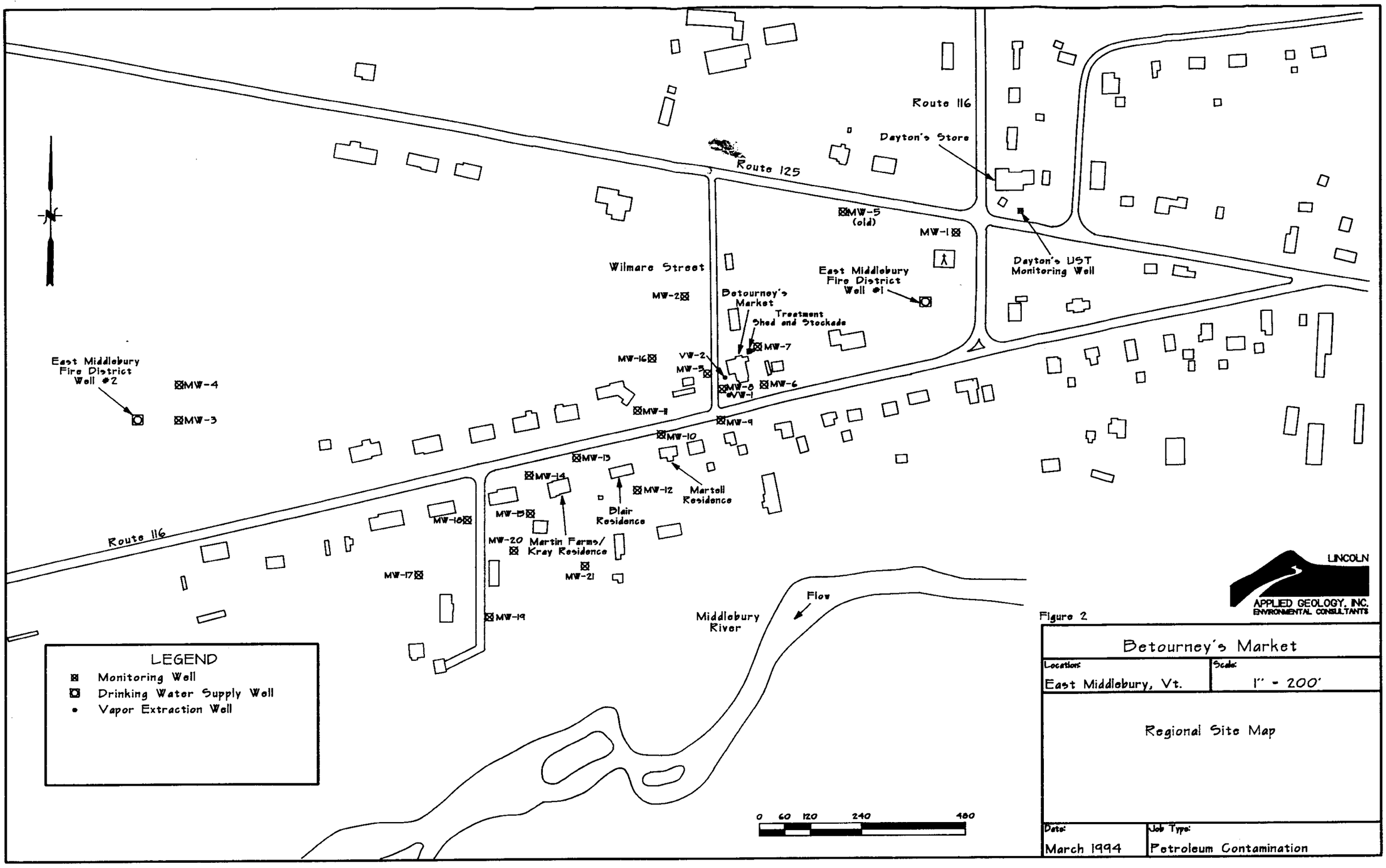
Chart 8

Betourney's Market
GENERAL LOCATION MAP



Source: U.S.G.S. 7.5 min. Topo Series
East Middlebury, VT Quad.

Scale: 1" = 2000'


Route 116
Route 125
Dayton's Store
Dayton's UST Monitoring Well
MW-5 (old)
MW-1
Wilmare Street
MW-2
East Middlebury Fire District Well #1
Betourney's Market
Treatment Shed and Stockade
MW-7
MW-16
VW-2
MW-5
MW-8
VW-1
MW-6
East Middlebury Fire District Well #2
MW-4
MW-3
MW-11
MW-9
MW-10
MW-15
MW-14
MW-12
Martell Residence
Blair Residence
MW-13
MW-20
Martin Farms/ Kray Residence
MW-21
MW-18
MW-17
MW-19
Middlebury River
Flow
LEGEND
Monitoring Well
Drinking Water Supply Well
Vapor Extraction Well
0 60 120 240 480
LINCOLN
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ENVIRONMENTAL CONSULTANTS
Figure 2
Betourney's Market
Location: East Middlebury, Vt.
Scale: 1" = 200'
Regional Site Map
Date: March 1994
Job Type: Petroleum Contamination

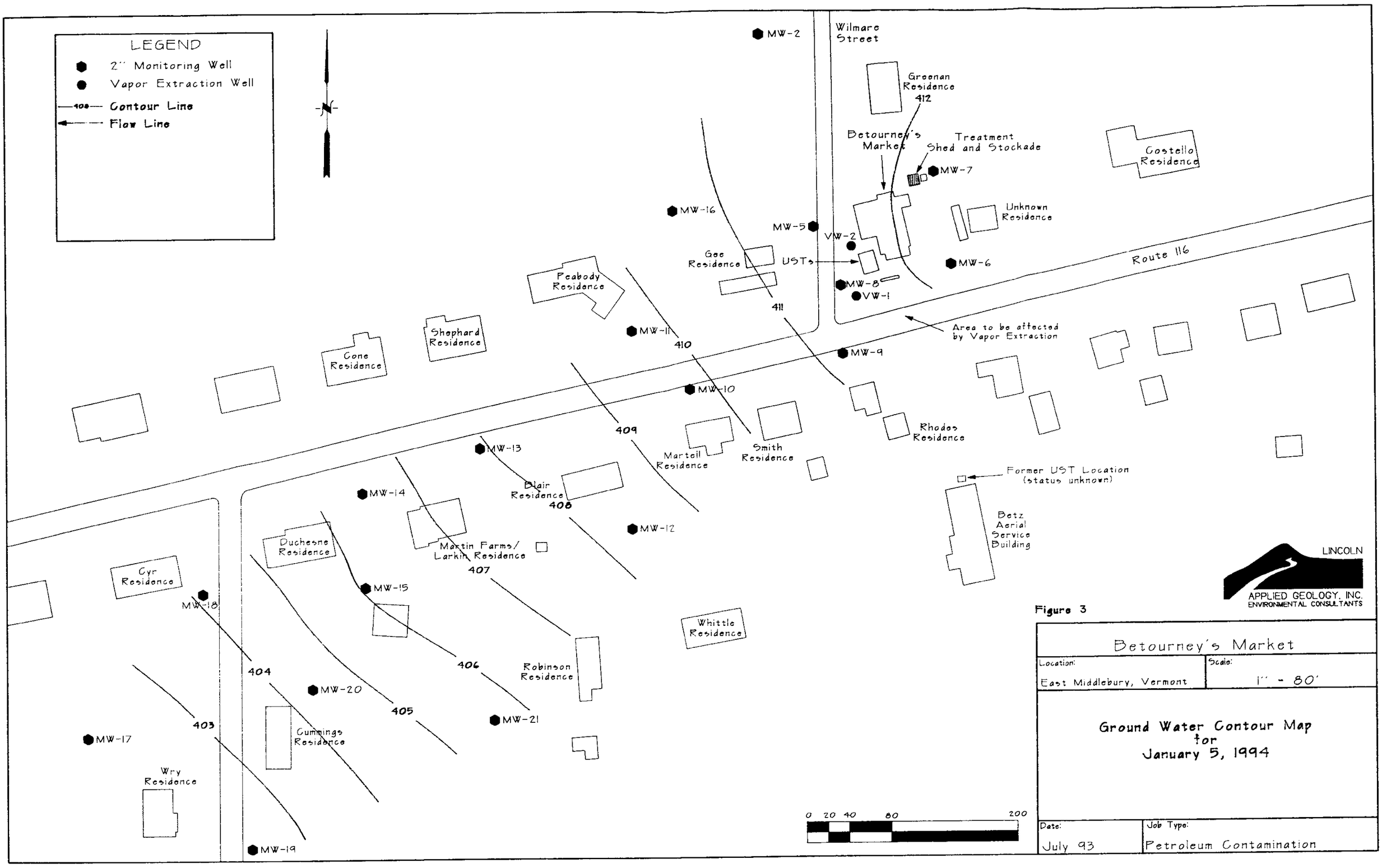


Figure 3

Betourney's Market

Location:	Scale:
East Middlebury, Vermont	1" = 80'

Ground Water Contour Map
for
January 5, 1994

Date:	Job Type:
July 93	Petroleum Contamination

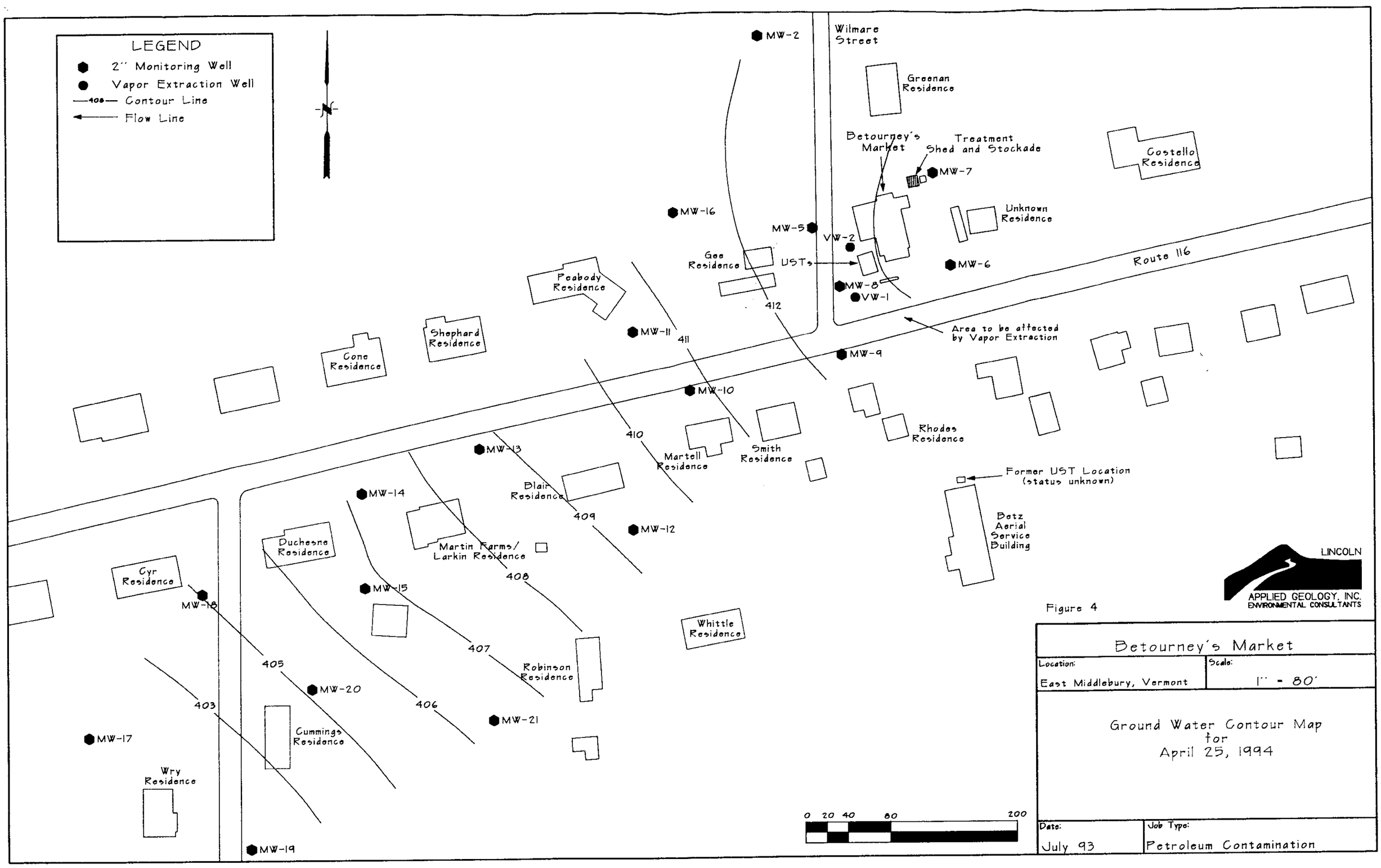


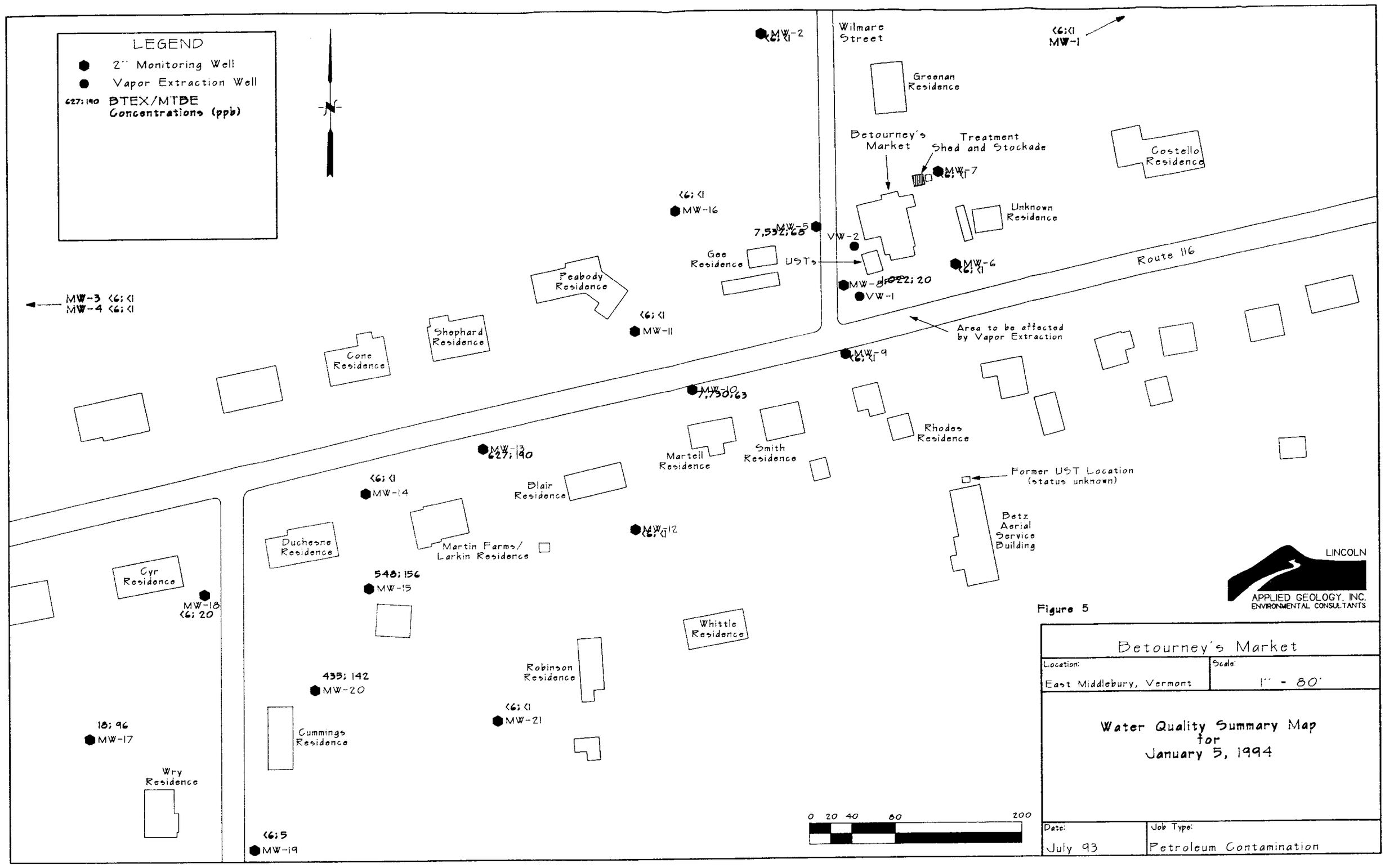
Figure 4

Betourney's Market

Location:	Scale:
East Middlebury, Vermont	1" = 80'

Ground Water Contour Map
for
April 25, 1994

Date:	Job Type:
July 93	Petroleum Contamination



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ENVIRONMENTAL CONSULTANTS

Figure 5

Betourney's Market

Location:	Scale:
East Middlebury, Vermont	1" = 80'

Water Quality Summary Map
for
January 5, 1994

Date:	Job Type:
July 93	Petroleum Contamination

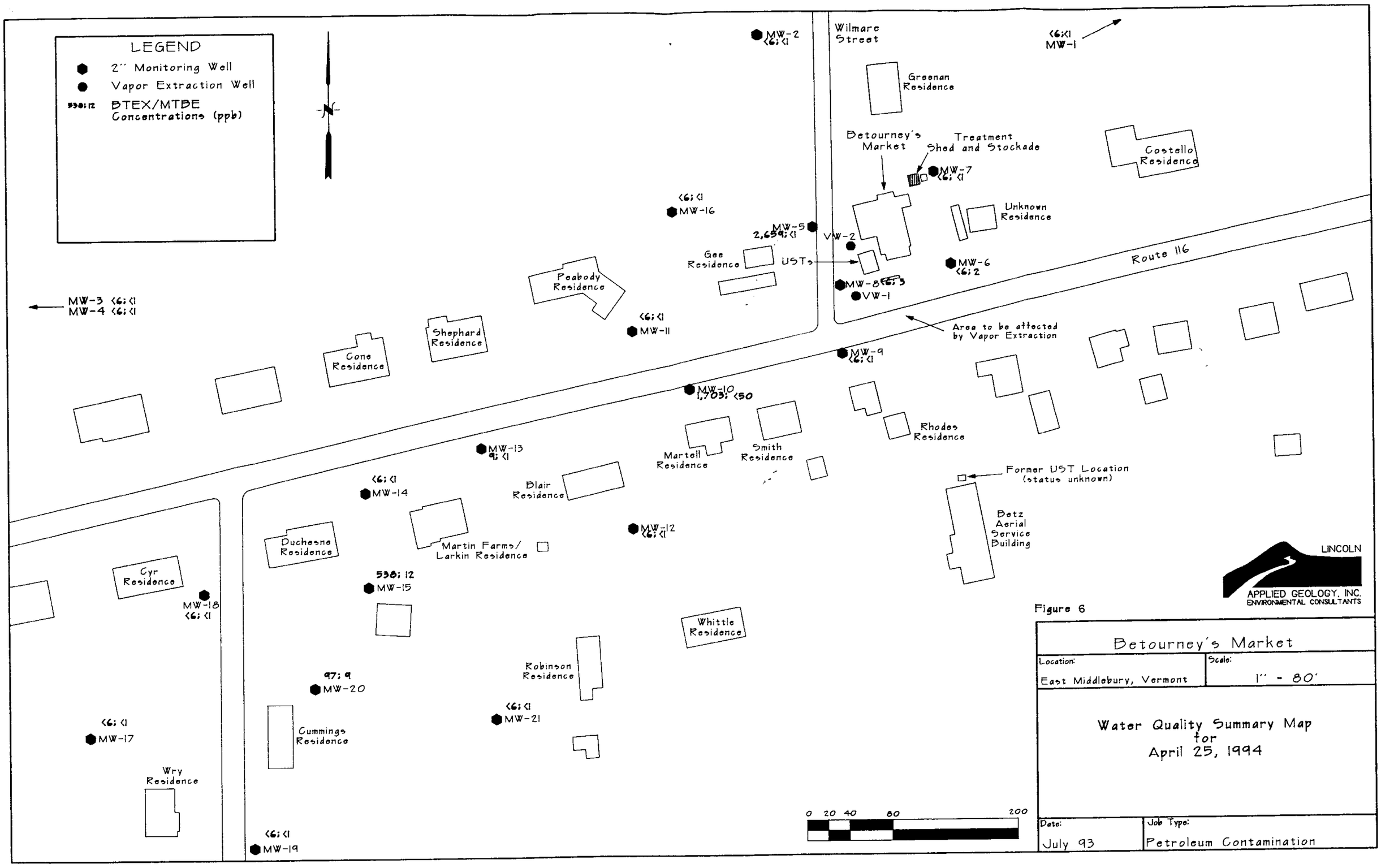

Figure 6

Betourney's Market

Location: East Middlebury, Vermont

Scale: 1" - 80'

Water Quality Summary Map for April 25, 1994

Date: July 93

Job Type: Petroleum Contamination

Appendix A

January 1994

Water Quality Results

LABORATORY ANALYSIS

CLIENT NAME:	Lincoln Applied Geology	REF #:	8073
ADDRESS:	RD1 Box 710 Bristol, VT 05443	PROJECT NO.:	not given
SAMPLE LOCATION:	Betourney's	DATE OF SAMPLE:	1/5/94
SAMPLER:	Jim Holman	DATE OF RECEIPT:	1/5/94
		DATE OF ANALYSIS:	1/9,1/10,1/11, 1/12,1/13,/94
ATTENTION:	John Amadon/Steve Larosa	DATE OF REPORT:	1/14/94

Pertaining to the analyses of specimens submitted under the accompanying chain of custody form, please note the following:

- Water samples submitted for VOC's were preserved with HCl.
- Specimens were processed and examined according to the procedures outlined in the specified method.
- Holding times were honored.
- Instruments were appropriately tuned and calibrations were checked with the frequencies required in the specified method.
- Blank contamination was not observed at levels interfering with the analytical results.
- Continuing calibration standards were monitored at intervals indicated in the specified method. The resulting analytical precision and accuracy were determined to be within method QA/QC acceptance limits.
- The inferred efficiency of analyte recovery for individual samples was monitored by the addition of surrogate analytes to all samples, standards, and blanks. Surrogate recoveries were found to be within laboratory QA/QC acceptance limits, unless noted otherwise.

Reviewed by:

Brendan McMahon, Ph.D.
Director, Chemical Service

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-1
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	09:30
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 10, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 101%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-2
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	09:45
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 10, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 101%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-3
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	09:55
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 10, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 101%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-4
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	10:05
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 11, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 100%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-5
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	13:35
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 13, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	50	BPQL
Toluene	50	755
Ethylbenzene	50	947
Xylenes	150	5,780
MTBE	50	68

Surrogate % Recovery: 101%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-6
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	11:20
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 11, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 101%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-7
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	10:55
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 11, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 101%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-8
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	14:02
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 13, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	10	BPQL
Toluene	10	56
Ethylbenzene	10	BPQL
Xylenes	30	946
MTBE	10	20

Surrogate % Recovery: 100%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-9
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	11:10
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 11, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 99%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-10
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	13:50
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 13, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	50	BPQL
Toluene	50	840
Ethylbenzene	50	1,010
Xylenes	150	5,830
MTBE	50	63

Surrogate % Recovery: 100%

BPQL = Below Practical Quantitation Limit (PQL).

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-11
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	11:20
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 11, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 100%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-12
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	11:33
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 11, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 101%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-13
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	12:46
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 12, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	10	206
Toluene	10	34
Ethylbenzene	10	125
Xylenes	30	262
MTBE	10	190

Surrogate % Recovery: 99%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-14
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	11:45
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 12, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 101%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-15
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	13:25
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 13, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	10	167
Toluene	10	23
Ethylbenzene	10	116
Xylenes	30	242
MTBE	10	156

Surrogate % Recovery: 101%

BPQL = Below Practical Quantitation Limit (PQL).

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CHAIN OF CUSTODY RECORD

MicroAssays of Vermont

RR#3 Box 5210 P.O. Box 189
Montpelier, VT 05602
Ph. (802)223-1468 Fax (802)223-8688

CLIENT NAME: LINCOLN APPLIED GEOLOGY
ADDRESS: RD.1 BOX 710 BRISTOL VT.
PROJECT NAME: BETOURNEYS
PROJECT NUMBER:
PROJECT MANAGER: STEVE CAROSA
SAMPLER: JIM HOLMAN

ANALYSIS REQUESTED: BTEX / MTBE

Page 2 of 2 3

MAV # 3

Sample Location	Date	Time	# of cont.	pres ervd	Sample Type	REMARKS:
MW 13	1-5-94	1246	2	HCL	40ml H2O	
MW 17	"	100	"	"	"	
MW 20	"	114	"	"	"	
MW 15	"	125	"	"	"	
MW 5	"	135	"	"	"	
MW 10	"	150	"	"	"	
MW 8	"	202	"	"	"	

Relinquished by:	Received by:	Date/Time	Relinquished by:	Received by:	Date/Time
Jim Holman	B. Holman	1/6/94 16:00			

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-17
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	13:00
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 12, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	1	13
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	96

Surrogate % Recovery: 100%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-18
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	12:26
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 12, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	20

Surrogate % Recovery: 101%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-19
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	12:38
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 12, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	5

Surrogate % Recovery: 100%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-20
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	13:14
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 13, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	10	133
Toluene	10	15
Ethylbenzene	10	98
Xylenes	30	189
MTBE	10	142

Surrogate % Recovery: 101%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	MW-21
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	12:11
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 12, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 100%

BPQL = Below Practical Quantitation Limit (PQL).

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,073
REPORT DATE:	January 14, 1994	STATION:	Trip Blank
DATE SAMPLED:	January 5, 1994	TIME SAMPLED:	07:30
DATE RECEIVED:	January 5, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	January 10, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Concentration (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 101%

BPQL = Below Practical Quantitation Limit (PQL).

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CHAIN OF CUSTODY RECORD

MicroAssays of Vermont

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Montpelier, VT 05602
Ph. (802)223-1468 Fax (802)223-8688

Page 1 of 3

MAV # 3

CLIENT NAME	LINCOLN APPLIED GEOLOGY
ADDRESS	RD. 1 Box 710 BRISTOL VT.
PROJECT NAME	BETOURNEYS
PROJECT NUMBER	—
PROJECT MANAGER	STEVE LAROSA
SAMPLER	JIM HOLMAN

Sample Location	Date	Time	# of cont.	pres ervd	Sample Type	ANALYSIS REQUESTED: BTEX / MTBE	REMARKS:
TRIP	1-5-94	7:20	2	HCL	40 ML H_2O	X	
MW 1		930				X	
MW 2		945				X	
MW 3		955				X	
MW 4		1005				X	
MW 6		1045				X	
MW 7		1055				X	
MW 9		1110				X	
MW 11		1120				X	
MW 12		1133				X	
MW 14		1145				X	
MW 16		1157				X	
MW 21		1211				X	
MW 18		1226				X	
MW 19		1238				X	

Relinquished by:	Received by:	Date/Time	Relinquished by:	Received by:	Date/Time
		1/5/94 16:00			

CHAIN OF CUSTODY RECORD

MicroAssays of Vermont

RR#3 Box 5210 P.O. Box 189
Montpelier, VT 05602
Ph. (802)223-1468 Fax (802)223-8688

CLIENT NAME: LINCOLN APPLIED GEOLOGY
ADDRESS: RD.1 BOX 710 BRISTOL VT.
PROJECT NAME: BETOURNEYS
PROJECT NUMBER:
PROJECT MANAGER: STEVE CAROSA
SAMPLER: JIM HOLMAN

ANALYSIS REQUESTED: BTEX / MTBE

Page 2 of 2 3

MAV # 3

Sample Location	Date	Time	# of cont.	pres ervd	Sample Type	REMARKS:
MW 13	1-5-94	1246	2	HCL	40ml H2O	
MW 17	"	100	"	"	"	
MW 20	"	114	"	"	"	
MW 15	"	125	"	"	"	
MW 5	"	135	"	"	"	
MW 10	"	150	"	"	"	
MW 8	"	202	"	"	"	

Relinquished by:	Received by:	Date/Time	Relinquished by:	Received by:	Date/Time
Jim Holman	B. Holman	1/6/94 16:00			

Appendix B

April 1994

Water Quality Results

LABORATORY ANALYSIS

CLIENT NAME:	Lincoln Applied Geology	REF #:	8674
ADDRESS:	RD#1 Box 710 Bristol, VT 05443	PROJECT NO.:	not given
SAMPLE LOCATION:	Betourney's Market	DATE OF SAMPLE:	4/13/94
SAMPLER:	Jim Holman	DATE OF RECEIPT:	4/13/94
		DATE OF ANALYSIS:	4/21/94
ATTENTION:	John Amadon/Steve Larosa	DATE OF REPORT:	4/21/94

Pertaining to the analyses of specimens submitted under the accompanying chain of custody form, please note the following:

- Water samples submitted for VOC analysis were preserved with HCL.
- Specimens were processed and examined according to the procedures outlined in the specified method.
- Holding times were honored.
- Instruments were appropriately tuned and calibrations were checked with the frequencies required in the specified method.
- Blank contamination was not observed at levels interfering with the analytical results.
- Continuing calibration standards were monitored at intervals indicated in the specified method. The resulting analytical precision and accuracy were determined to be within method QA/QC acceptance limits.
- The inferred efficiency of analyte recovery for individual samples was monitored by the addition of surrogate analytes to all samples, standards, and blanks. Surrogate recoveries were found to be within laboratory QA/QC acceptance limits, unless noted otherwise.

Reviewed by:

Brendan McMahon, Ph.D.
Director, Chemical Services

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's Market	REF.#:	8,674
REPORT DATE:	April 21, 1994	STATION:	Kray Sump
DATE SAMPLED:	April 13, 1994	TIME SAMPLED:	13:35
DATE RECEIVED:	April 13, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	April 21,1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	22
Toluene	1	6
Ethylbenzene	1	20
Xylenes	3	73
MTBE	1	9

Surrogate % Recovery: 97%

BPQL = Below Practical Quantitation Limit (PQL).

CHAIN OF CUSTODY RECORD

MicroAssays of Vermont

RR# Box 5210 P.O. Box 189
Montpelier, VT 05602
Ph. (802)223-1468 Fax (802)223-8688

CLIENT NAME: LAG
ADDRESS: RD.1 Box 710 Bristol
PROJECT NAME: Betourneys MKT.
PROJECT NUMBER: ____
PROJECT MANAGER: STEVE LAROSA
SAMPLER: Jim Holman

ANALYSIS REQUESTED

BTEX MTBE

Page ___ of ___

MAV # 374

Sample Location	Date	Time	# of cont.	pres ervd	Sample Type	REMARKS:
ND KRAY SUMP	41394	135	2	HCl	40ml H2O	

APPLIED GEOLOGY

Relinquished by:	Received by:	Date/Time	Relinquished by:	Received by:	Date/Time
Jim Hol	L. Jodoin 3:pm	4/13/94			

LABORATORY ANALYSIS

CLIENT NAME:	Lincoln Applied Geology	REF #:	8746
ADDRESS:	RD#1 Box 710	PROJECT NO.:	not given
	Bristol, VT 05443		
SAMPLE LOCATION:	Betourney's	DATE OF SAMPLE:	4/25/94
SAMPLER:	Jim Holman	DATE OF RECEIPT:	4/25/94
		DATE OF ANALYSIS:	4/30,5/1,5/2,5/3, 5/4,5/5/94
ATTENTION:	John Amadon/Steve Larosa	DATE OF REPORT:	5/5/94

Pertaining to the analyses of specimens submitted under the accompanying chain of custody form, please note the following:

- Water samples submitted for VOC analysis were preserved with HCL
- Specimens were processed and examined according to the procedures outlined in the specified method.
- Holding times were honored.
- Instruments were appropriately tuned and calibrations were checked with the frequencies required in the specified method.
- Blank contamination was not observed at levels interfering with the analytical results.
- Continuing calibration standards were monitored at intervals indicated in the specified method. The resulting analytical precision and accuracy were determined to be within method QA/QC acceptance limits.
- The inferred efficiency of analyte recovery for individual samples was monitored by the addition of surrogate analytes to all samples, standards, and blanks. Surrogate recoveries were found to be within laboratory QA/QC acceptance limits, unless noted otherwise.

Reviewed by:

Brendan McMahon, Ph.D.

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-1
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	08:35
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 1, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 93%

BPQL = Below Practical Quantitation Limit (PQL).

LINCOLN APPLIED GEOLOGY

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-2
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	08:40
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 1, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 93%

BPQL = Below Practical Quantitation Limit (PQL).

LINCOLN APPLIED GEOLOGY, I

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-3
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	08:45
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 1, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 93%

BPQL = Below Practical Quantitation Limit (PQL).

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-4
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	08:52
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 1, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 91%

BPQL = Below Practical Quantitation Limit (PQL).

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-5
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	12:10
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 4, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	50	BPQL
Toluene	50	BPQL
Ethylbenzene	50	127
Xylenes	150	2,530
MTBE	50	BPQL

Surrogate % Recovery: 100%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-5 Duplicate
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	12:10
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 4, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	50	BPQL
Toluene	50	BPQL
Ethylbenzene	50	127
Xylenes	150	2,530
MTBE	50	BPQL

Surrogate % Recovery: 101%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-6
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	09:05
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 2, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	2

Surrogate % Recovery: 94%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-7
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	09:12
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 2, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 92%

BPQL = Below Practical Quantitation Limit (PQL).

LINCOLN APPLIED GEOLOGY

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-8
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	11:45
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 5, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	3

Surrogate % Recovery: 100%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-9
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	09:22
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 2, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	1

Surrogate % Recovery: 93%

BPQL = Below Practical Quantitation Limit (PQL).

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-10
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	12:45
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 4, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	50	BPQL
Toluene	50	BPQL
Ethylbenzene	50	223
Xylenes	150	1,380
MTBE	50	BPQL

Surrogate % Recovery: 100%

BPQL = Below Practical Quantitation Limit (PQL).

APPLIED GEOLOGY

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-11
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	09:34
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 2, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	3
MTBE	1	BPQL

Surrogate % Recovery: 93%

BPQL = Below Practical Quantitation Limit (PQL).

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-12
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	09:45
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 2, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 94%

BPQL = Below Practical Quantitation Limit (PQL).

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-13
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	11:30
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 5, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	6
MTBE	1	BPQL

Surrogate % Recovery: 101%

BPQL = Below Practical Quantitation Limit (PQL).

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-14
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	11:21
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 2, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 95%

BPQL = Below Practical Quantitation Limit (PQL).

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-15
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	11:15
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 3, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	10	58
Toluene	10	17
Ethylbenzene	10	67
Xylenes	30	396
MTBE	10	12

Surrogate % Recovery: 94%

BPQL = Below Practical Quantitation Limit (PQL).

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-16
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	09:53
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 2, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 93%

BPQL = Below Practical Quantitation Limit (PQL).

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-17
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	10:54
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 2, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 92%

BPQL = Below Practical Quantitation Limit (PQL).

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-18
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	10:41
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 2, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 94%

BPQL = Below Practical Quantitation Limit (PQL).

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-19
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	10:15
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 2, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 91%

BPQL = Below Practical Quantitation Limit (PQL).

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-20
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	11:07
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 3, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	20
Toluene	1	4
Ethylbenzene	1	15
Xylenes	3	58
MTBE	1	9

Surrogate % Recovery: 97%

BPQL = Below Practical Quantitation Limit (PQL).

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	MW-21
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	10:30
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 2, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 94%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	VW-1
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	12:50
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 4, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	1

Surrogate % Recovery: 100%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	VW-2
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	12:55
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 4, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	1

Surrogate % Recovery: 99%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	Trip Blank
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	06:15
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 1, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 94%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	Kray Tap
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	08:00
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 1, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 94%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	Kray Sump
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	08:00
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 1, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	7

Surrogate % Recovery: 93%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	Dayton Store Tap
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	08:10
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 3, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 97%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	Water District Well # 2
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	07:05
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 4, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 96%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	Water District Well # 2 Duplicate
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	07:05
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 4, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 96%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	Piezometer
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	07:15
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 4, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 99%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	Blair Sump
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	08:15
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 4, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	2
Xylenes	3	29
MTBE	1	BPQL

Surrogate % Recovery: 97%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	Peabody Tap
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	08:25
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 4, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 97%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	Martell Sump
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	08:20
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 4, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 97%

BPQL = Below Practical Quantitation Limit (PQL).

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	Duschesne Tap
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	08:30
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 4, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 99%

BPQL = Below Practical Quantitation Limit (PQL).

LINCOLN APPLIED GEOL

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LABORATORY REPORT

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Betourney's	REF.#:	8,746
REPORT DATE:	May 5, 1994	STATION:	Deschesne Sump
DATE SAMPLED:	April 25, 1994	TIME SAMPLED:	08:30
DATE RECEIVED:	April 25, 1994	SAMPLER:	Jim Holman
ANALYSIS DATE:	May 4, 1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	BPQL
Ethylbenzene	1	BPQL
Xylenes	3	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 100%

BPQL = Below Practical Quantitation Limit (PQL).

LINCOLN APPLIED GEOLOGY, INC.

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CHAIN OF CUSTODY RECORD

MicroAssays of Vermont

RR# Box 5210 P.O. Box 189
Montpelier, VT 05602
Ph. (802)223-1468 Fax (802)223-8688

CLIENT NAME: LINCOLN APPLIED GEOLOGY
ADDRESS: RD. 1 Box 710 BRISTOL VT.
PROJECT NAME: BETOURNEYS
PROJECT NUMBER: ——
PROJECT MANAGER: STEVE LAROSA
SAMPLER: JIM HOLMAN

ANALYSIS REQUESTED: BTEX MTBE

Page 1 of 3

MAV # 8746

Sample Location	Date	Time	# of cont.	pres ervd	Sample Type	REMARKS:
TRIP ND	D 4-25-94	615	2	HCl	40ml H2O	
KRAY TAP	D	800				
KRAY SUMP ND	D	800				
DAYTON STORE TAP	D	810				
WATER DIST. WELL #2	D	705				
DUPLICATE WATER DIST. WELL #2	D	705				
PIEZOMETER	—	715				
BLAIR SUMP	D	815				
PEABODY TAP	D	825				
MARTELL SUMP	D	820				
DUSCHESNE TAP		830				
DUSCHESNE SUMP		830				
MW 1 ND	D	835				
MW 2 ND	D	840				
MW 3 ND	D	845	✓	✓	✓	

Relinquished by:	Received by:	Date/Time	Relinquished by:	Received by:	Date/Time
Jim Hol	K. Kray	4/25/94 245pm			

CHAIN OF CUSTODY RECORD

MicroAssays of Vermont

RR# Box 5210 P.O. Box 189
Montpelier, VT 05602
Ph. (802)223-1468 Fax (802)223-8688

Page 2 of 3

MAV # 8746

CLIENT NAME: LINCOLN APPLIED GEOLOGY
ADDRESS: RD. 1 BOX 710 BRISTOL VT.
PROJECT NAME: BETOURNEY
PROJECT NUMBER: —
PROJECT MANAGER: STEVE LAROSA
SAMPLER: JIM HOLMAN

Sample Location	Date	Time	# of cont.	pres ervd	Sample Type	ANALYSIS REQUESTED: BTEX MTBE	REMARKS:
MW4 ND	042594	852	2	HCL	40 ml H2O	X	
MW 6 ND	D	905				X	
MW 7 ND	D	912				X	
MW 9 ND	D	922				X	
MW 11 ND	D	934				X	
MW 12 ND	D	945				X	
MW 16 ND	D	953				X	
MW 19 ND	D	1015				X	
MW 21 ND	D	1030				X	
MW 18 ND	D	1041				X	
MW 17 ND	D	1054				X	
MW 20 ND	D	1107				X	
MW 15 ND	D	1115				X	
MW 14 ND	D	1121				X	
MW 13 ND	↓	1130	↓	↓	↓	X	

Relinquished by:	Received by:	Date/Time	Relinquished by:	Received by:	Date/Time
[signature]	K. Shay	4/25/94 2:45pm			

CHAIN OF CUSTODY RECORD

MicroAssays of Vermont

RR# Box 5210 P.O. Box 189
Montpelier, VT 05602
Ph. (802)223-1468 Fax (802)223-8688

CLIENT NAME	LINCOLN APPLIED GEOLOGY
ADDRESS	RD. 1 BOX 710 BRISTOL VT.
PROJECT NAME	BETOURNEY
PROJECT NUMBER	—
PROJECT MANAGER	STEVE LAROSA
SAMPLER	JIM HOLMAN

ANALYSIS REQUESTED

Page 3 of 3

MAV # 8746

Sample Location	Date	Time	# of cont.	pres ervd	Sample Type	BTEX MTBE	REMARKS:
MW 8 1:10	42594	1145	2	HCl	H2O 40ml	X	
✓ MW 5 1:50		1210				X	
✓ MW 5 DUPLICATE		1210				X	
✓ MW 10 1:50		1245				X	
✓ VW 1		1250				X	
✓ VW 2		1255				X	

Relinquished by:	Received by:	Date/Time	Relinquished by:	Received by:	Date/Time
[signature]	K. Gray	4/25/94 2:45pm			